

1(CCE.M)2

Geology—I

(11)

Time : Three Hours]

[Maximum Marks : 300

INSTRUCTIONS

- (i) Answers must be written in English.
- (ii) The number of marks carried by each question is indicated at the end of the question.
- (iii) The answer to each question or part thereof should begin on a fresh page.
- (iv) Your answer should be precise and coherent.
- (v) The part/parts of the same question must be answered together and should not be interposed between answers to other questions.
- (vi) Candidates should attempt **six** questions in all. The question no.1 is compulsory.
- (vii) If you encounter any typographical error, please read it as it appears in the text-book.
- (viii) Candidates are in their own interest advised to go through the General Instructions on the back side of the title page of the Answer Script for strict adherence.
- (ix) No continuation sheets shall be provided to any candidate under any circumstances.
- (x) Candidates shall put a cross (×) on blank pages of Answer Script.

(xi) No blank page be left in between answer to various questions.

(xii) No programmable Calculator is allowed.

(xiii) No stencil (with different markings) is allowed.

1. Attempt any **two** of the following :

(A) Draw a neat diagram of the cross-section of Earth's interior, explain in brief the criteria used to understand the Earth's interior and comment on the mineral transformations.

(B) Draw a cross-section of the structure of the oceanic crust generated at mid oceanic ridges and comment on the MORB petrogenesis.

(C) Explain in brief the causes of earthquakes, their distribution in the Indian subcontinent and comment on their geological effects.

50

2. (A) Explain the basic concepts and significance of geomorphic processes and parameters used in the interpretation of Topography and its relation to structure and lithology.

(B) Describe in brief the main river channel patterns, enlist the valley fill deposits and explain the formation of river terraces.

50

3. (A) What are folds ? Explain various types of folds with suitable diagram.

(B) What are gravity faults ? Explain the horst and graben structure giving suitable examples.

50

4. (A) Write a detailed note on conditions of fossilization and describe the collection, preparation and nomenclature of fossils.

(B) Describe the origin, general features and classification of dinosaurs and add a note on their extinction. 50

5. (A) Define stratigraphy. Explain the fundamental principles used in stratigraphy and the nomenclature used for lithostratigraphy.

(B) What are microfossils ? Give their classification and elaborate on their use in palaeoenvironmental interpretation. 50

6. (A) Explain the structure, lithostratigraphic division of the Dharwar craton and write a note on 'Sargur Group'.

(B) What do you know about the structure of the Cuddapah basin ? Discuss the environment of deposition of the Cuddapah super group of rocks. 50

7. Briefly describe the following :

(A) Plate margins.

(B) Mobile belts.

(C) Continental rifting. 50

8. Describe the following with the help of neat sketches :

(A) Morphological characteristics of meandering channel.

(B) Piedmont glacier.

(C) Karst topography. 50